Kit, AV2+ Ventilator Upgrade for Narkomed 4

INSTALLATION PROCEDURE

The following procedure applies to Narkomed 4 machines with an AV2 ventilator, and provides the instructions needed to install an AV2+ ventilator controller and its interface cables.

Removing the AV2 ventilator controller:

1. Turn the System Power switch to STANDBY and remove AC power from the machine.
2. Disconnect all pipeline hoses and close all cylinder valves.
3. If applicable, remove any items from the top of the monitor box.
4. Disconnect all items at the patient interface panel, and remove the disposable reservoir from its holder.
5. Remove the screws holding the monitor box cover, and carefully lift the cover from the monitor chassis.
6. Remove the screws holding the monitor chassis to the ventilator box.
7. Remove the back panel from the ventilator box.
8. Disconnect any backplane cables that might prevent raising the front of the monitor chassis.
9. Raise the front of the monitor chassis approximately four inches, and prop the chassis up to hold it in place.

CAUTION: The ventilator controller circuit board contains static sensitive devices. Use ESD protection when handling the controller assembly.

10. Remove the two screws securing the left end of the ventilator controller panel. See Figure 1.
11. Pull the left side of the panel outward, slide it to the left until the locking tab on the right side of the panel is clear of its receptacle, then pull the assembly out far enough to gain access to its connections.
12. Disconnect the alarm channel wiring harness from J2 on the controller circuit board.

INSTALLATION PROCEDURE (continued)

13. Disconnect the following large and small diameter pneumatic tubing (the letters are keyed to the illustration):

    A: Small dia. tube from solenoid to rear vent fitting on bellows box

    B: Large dia. tube from supply valve to venturi

    C: Small dia. tube to auto-ranging valve

    D: Large dia. tube from main switch (O_2 supply)

14. Remove the controller and bezel assembly from the machine.

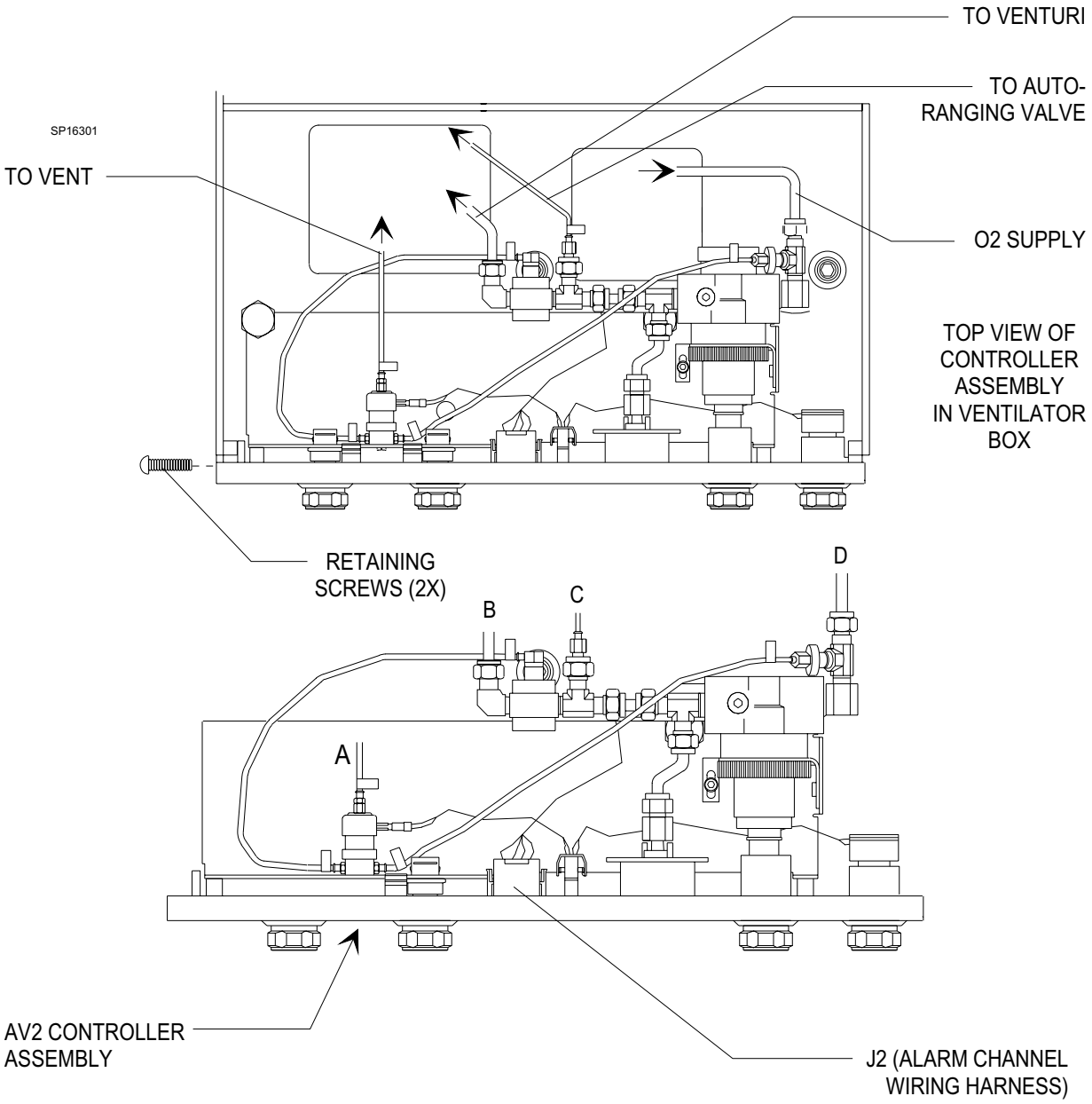

Figure 1: AV2 VENTILATOR CONTROLLER ASSEMBLY REMOVAL

INSTALLATION PROCEDURE (continued)

Removing the exhaust interface panel:

15. At the back of the machine, remove the cover from the wiring channel and interface housing. See Figure 2.

16. Remove the exhaust interface panel from the interface housing, and disconnect the internal tubing from the hose barb fitting.

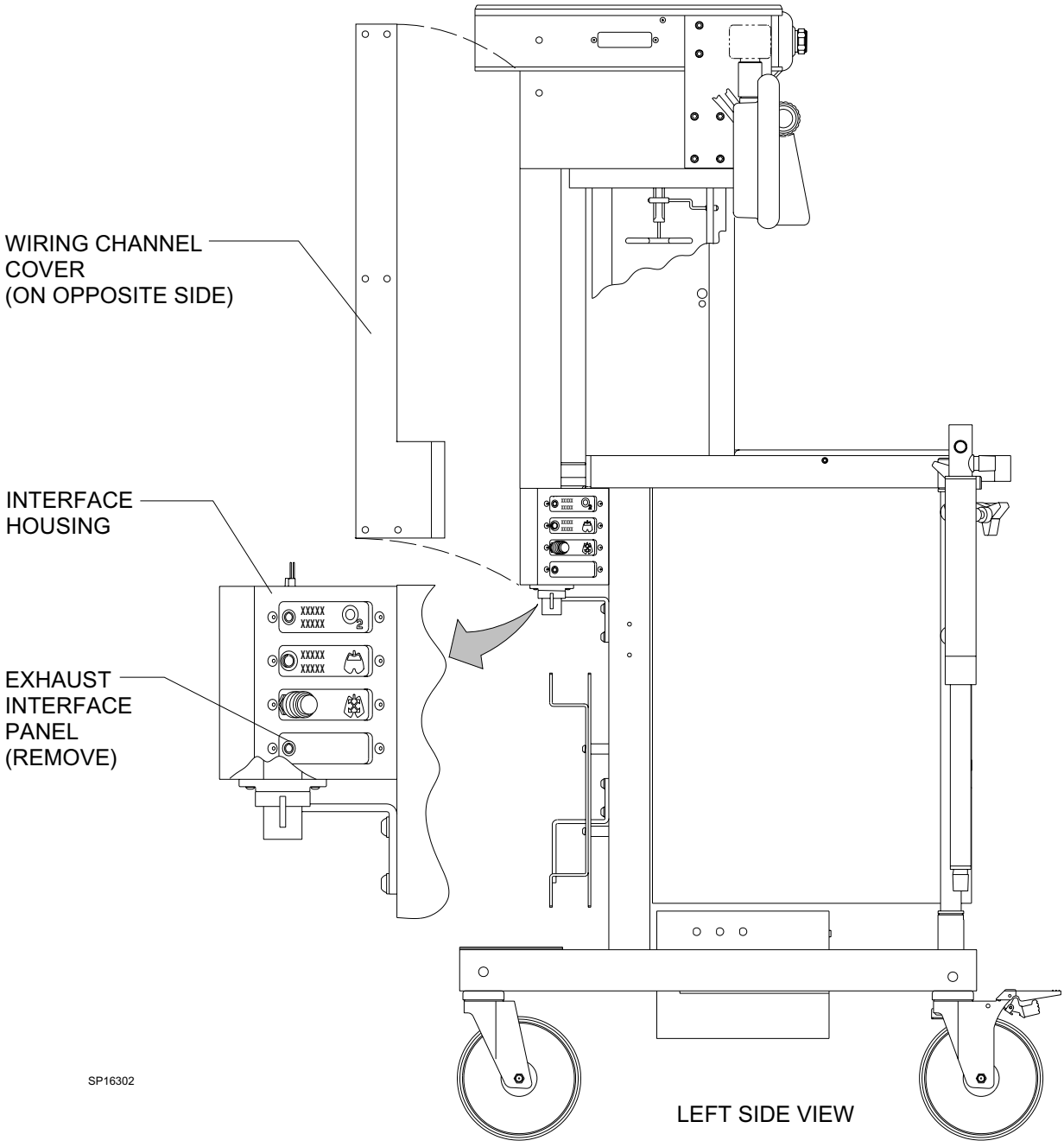

Figure 2: INTERFACE HOUSING - COVER AND EXHAUST PANEL REMOVAL

INSTALLATION PROCEDURE (continued)

Installing the new selector/exhaust interface panel assembly:

17. On the new selector/exhaust interface panel assembly (P/N 4113090-002), slide the bulkhead bushing to the connector end of the cable and temporarily tape the bushing to the cable. See Figure 3.

18. Transfer the hose barb fitting from the old exhaust interface panel to the new selector/exhaust interface panel.

19. Feed the connector end of the cable up through the back of the interface housing and wiring channel up into the ventilator box.

    Continue feeding in the cable until the new selector/exhaust interface panel can be positioned in the interface housing opening.

20. Connect the exhaust line in the interface housing to the back of the hose barb fitting on the selector /exhaust interface panel.

21. Install the new interface panel in the housing with the hardware that previously retained the exhaust panel.

22. Remove the ground lug retaining nut (see Figure 3). Install the interface panel ground lug on the stud, add a #6 ext-t lock washer (P/N HW68000) and reinstall the retaining nut.

23. Reinstall the wiring channel cover.

INSTALLATION PROCEDURE (continued)

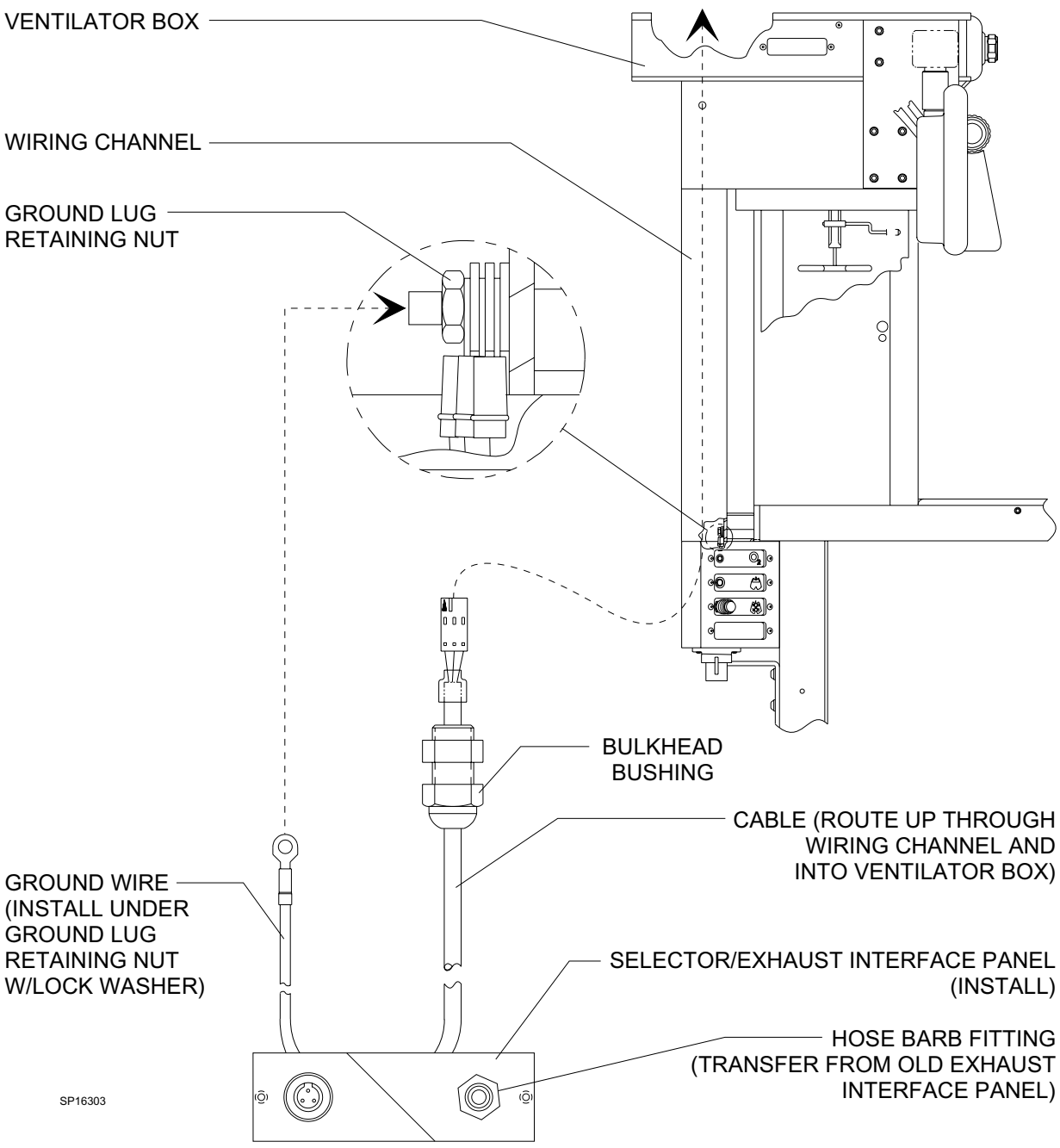

Figure 3: INTERFACE PANEL AND CABLE INSTALLATION

INSTALLATION PROCEDURE (continued)

Routing the cable in the ventilator box:

24. Examine the bulkhead in the ventilator box (see Figure 4) and determine whether Hole "A" is present.

    Skip the next step if the bulkhead has this threaded hole.

25. If there is no threaded hole in the bulkhead, proceed as follows:

    a) Measure and mark the location shown in the Figure 4 detail.

    b) Tape paper over the openings in the floor of the ventilator box to prevent drilling chips from falling into other areas of the machine.

    c) Carefully drill a 33/64 in. dia. hole (recommended clearance for the ½ in. bushing) at the location marked.

    d) Carefully de-burr the hole and vacuum all drill chips from the machine. Remove the tape and paper.

26. Remove the tape that was previously applied to hold the bushing at the connector end of the interface cable.

27. Remove the hex nut from the bulkhead bushing.

28. Route the connector and cable through hole "A" in the bulkhead.

29. Thread the bulkhead bushing into the hole

    or, if the hole was drilled,

    insert the bushing into the hole and slide the hex nut (supplied with the panel and cable assembly) over the cable and thread it onto the bushing.

INSTALLATION PROCEDURE (continued)

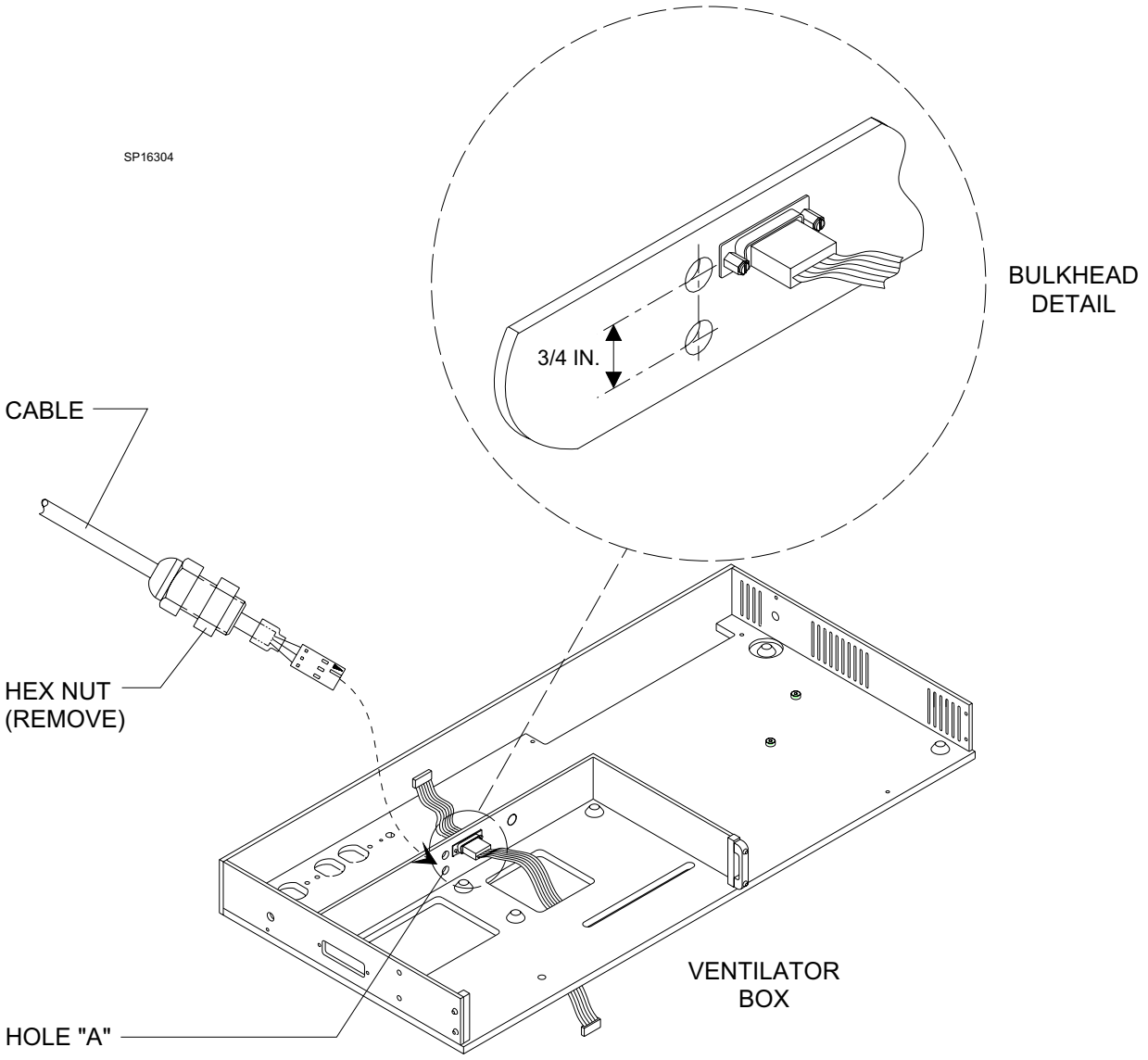

Figure 4: CABLE INSTALLATION IN VENTILATOR BOX

INSTALLATION PROCEDURE (continued)

Installing the AV2+ ventilator controller

CAUTION: The ventilator controller circuit board contains static sensitive devices. Use ESD protection when handling the controller assembly.

30. Position the AV2+ controller and bezel assembly (P/N 4113132-S01) in the ventilator box and connect the four pneumatic lines: **A, B, C,** and **D**. See Figure 5.

31. Connect the alarm channel wiring harness to J2 on the controller circuit board, and connect the new selector interface cable to J7 on the circuit board.

32. The AV2+ controller and bezel assembly installs in the ventilator box in the same manner as the AV2 assembly (ref. Figure 1).

    Slide the controller into the ventilator box, carefully fit the locking tab into its receptacle at the right side of the panel, and slide the assembly to the right until it is properly seated.

33. Reinstall the two retaining screws at the left side of the panel.

34. Reinstall the back panel of the ventilator box.

35. Lower the monitor chassis to its original position and re-attach it to the ventilator box.

36. Reinstall the monitor box cover.

INSTALLATION PROCEDURE (continued)

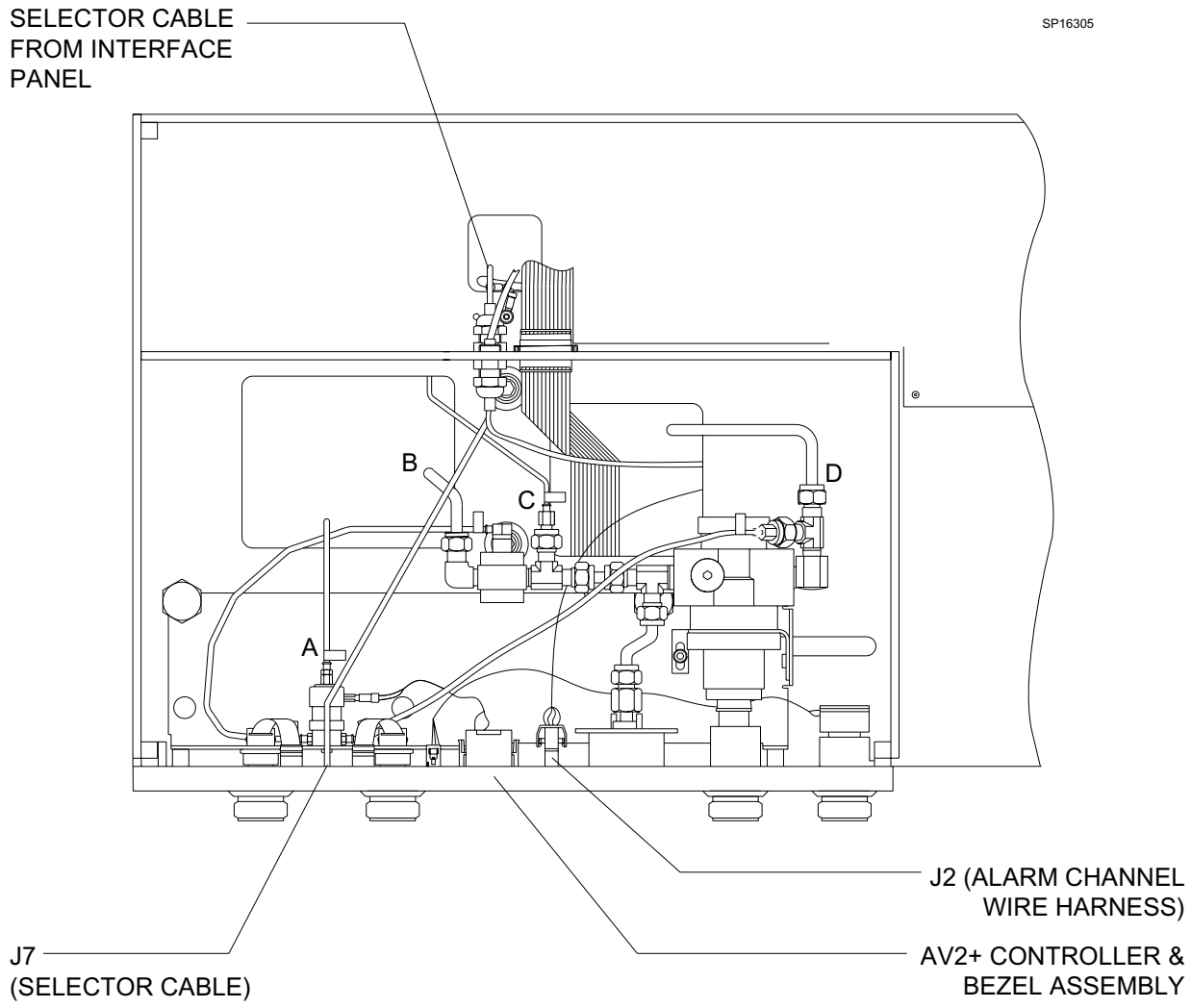

Figure 5: INSTALLING THE AV2+ VENTILATOR CONTROLLER

INSTALLATION PROCEDURE (continued)

Installing the AUTO/BAG Sensor Cord:

NOTE: This installation requires that the machine be equipped with the new Man/Auto selector valve (P/N 4112217-001) in order to accept the sensor cord.

If your installation has the earlier design valve, order kit P/N 4113303 for upgrade to the new selector valve. Installation instructions for the new valve are provided by Service Procedure SP00115.

37. Insert the sensor end of the sensor cord (P/N 4113126) into the underside of the Man/Auto selector housing. See Figure 6. Note that the sensor is keyed and will only fit into the selector housing one way. Push the sensor into the selector housing until it snaps into place.

38. Plug the other end of the sensor cord into the receptacle on the SELECTOR interface panel on the machine. Align the key on the connector with the keyway on the receptacle, and push the connector in until it snaps into place.

39. Restore power and O_2 connections to the machine and verify operation of the AUTO/BAG sensor as follows:

    a) Turn the System Power switch ON.

    b) Set the Selector valve to the BAG position.

    c) Turn the Ventilator ON; the fault lamp shall light.

    d) Set the selector valve to the AUTO position; the fault lamp shall turn off and the ventilator shall begin operating.

40. Insert the Operator's Manual Supplement (P/N 4113687) into the operator's manual binder that accompanies the machine.

41. Perform a complete PMS procedure on the machine.

INSTALLATION PROCEDURE (continued)

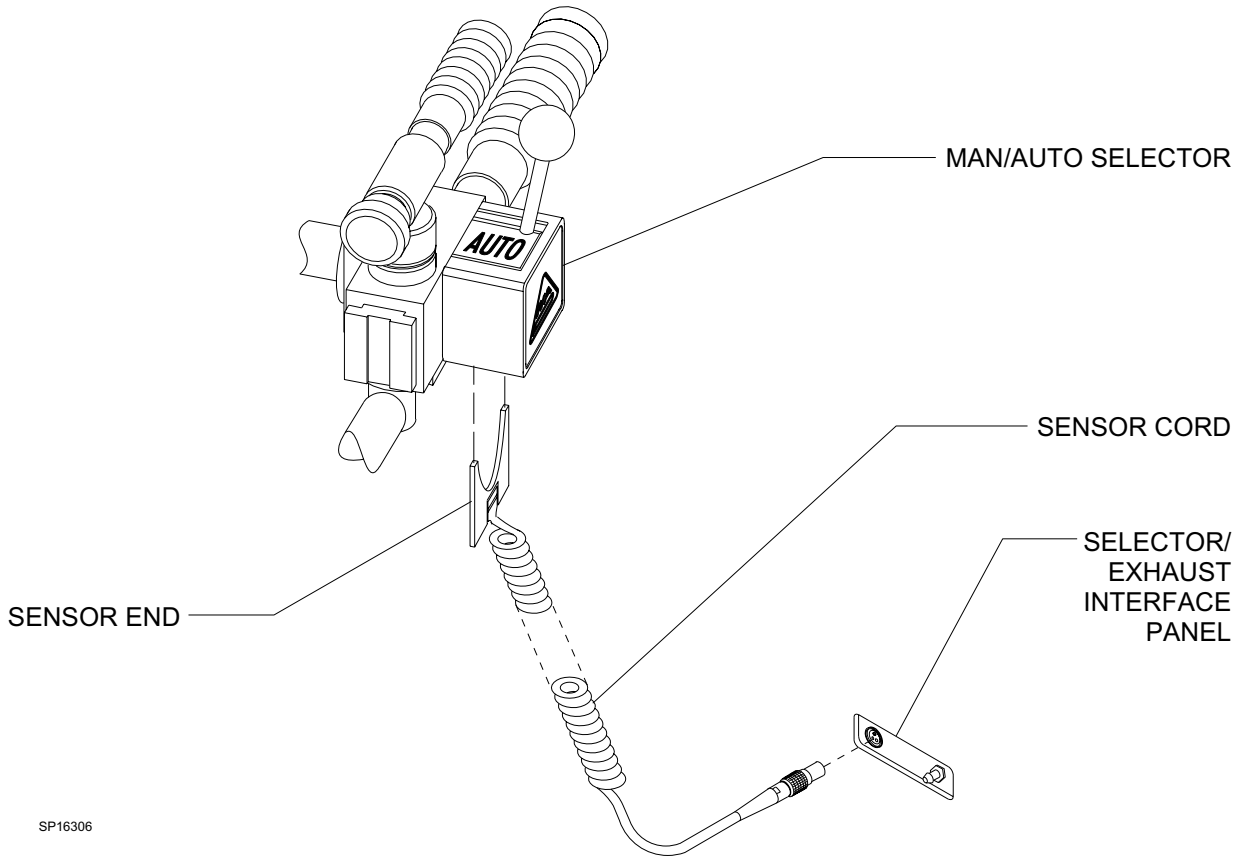

Figure 6: INSTALLING THE AUTO/BAG SENSOR CORD

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